REMARKS

Applicants thank Examiners Ware and Naff for the helpful and courteous discussion with Applicants' representatives on February 27, 2007. During this discussion, independent claim 1 was reviewed with respect to the art of record.

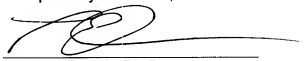
REQUEST FOR RECONSIDERATION

The rejection of the claims under 35 U.S.C. § 103 as being obvious over Bolton et al. (IDS reference X4) in view of Taylor (IDS reference X34), Haki et al. (IDS reference X10) and Daniel et al. (IDS reference D1), is respectfully traversed. Haki et al. is not available as prior art against the present application.

Haki et al. was published in 2003, being first available online on March 10, 2003 (see attached abstract of Haki et al., attached). The present application was filed on July 8, 2003. Furthermore, the most recent priority document to which the present application claims priority is UK Patent Application No. 0216146.1, filed July 11, 2002. Applicants perfected this claim to priority by the filing a certified copy of this priority application in December of 2003. Accordingly, effective filing date of the present application is July 11, 2002. Therefore, Haki et al. is not available as prior art against the present application. Finally, the remaining references are insufficient to sustain the rejection. Withdrawal of this ground of rejection is respectfully requested.

Applicants submit that the application is in condition for allowance. Early notice of such action is respectfully requested.

Respectfully submitted,



Paul E. Rauch, Ph.D.
Reg. No. 38,591

Evan Law Group LLC
600 West Jackson Blvd.
Suite 625
Chicago, Illinois 60661
(312) 876-1400

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Review Paper

Developments in industrially important thermostable enzymes: a review

G. D. Haki and S. K. Rakshit

Bioprocess Technology Program, Asian Institute of Technology (AIT), P.O. Box 4, Klong Luang, Pathumthani 12120, Thailand
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Abstract

Cellular components of thermophilic organisms (enzymes, proteins and nucleic acids) are also thermostable. Apart from high temperature they are also known to withstand denaturants of extremly acidic and alkaline conditions. Thermostable enzymes are highly specific and thus have considereble potential for many industrial applications. The use of such enzymes in maximising reactions accomplished in the food and paper industry, detergents, drugs, toxic westes removal and drilling for oil is being studied extansively. The enzymes can be produced from the thermophiles through either optimised fermentation of the microorganisms or cloning of fast-growing mesophiles by recombinant DNA technology. In this review, the source microorganisms and properties of thermostable starch hydrolysing amylases, xylanases, cellulases, chitinases, proteases, lipases and DNA polymerases are discussed. The industrial needs for such specific thermostable enzyme and improvements required to maximize their application in the future are also suggested.

Author Keywords: Thermostable enzymes; Thermophilic microorganisms

Corresponding author. Tel.: +66-2-524-6115; fax: +66-2-524-6111